Patent Claims

1. Drawer system, especially for cabinets/furniture, with a self-closing mechanism for the drawer that is guided lengthwise on rails (6-8), with energy storage, which stores kinetic energy in the form of potential energy when the drawer is pulled out and which potential energy is transferred again to the drawer in the form of kinetic energy when the drawer is closed **is characterized by** the kinetic energy that is stored with the opening cycle of the drawer (1, 16, 30, 34, 41) along the total extension length in the form of potential energy into energy storage (11, 19, 31, 52, 53), which potential energy, after releasing the drawer (1, 16, 30, 34, 41) that is controlled slowly and uniformly by a speed regulator (12, 20, 35, 42, 59) again along the entire closing length on the drawer (1, 16, 30, 34, 41) is outgoing in the form of kinetic energy, so that this automatically pulls it into it closed end position.

2. Drawer system, according to claim 1, **is characterized by** the energy storage (11, 19, 31) works between the drawer (16, 30, 34) and the cabinet body (17) on which the rails (6-8) are fastened.

3. Drawer system, according to claim 1 or 2, **is characterized by** the energy storage (52, 53) with the full extension drawer system works with cabinet rail (8), center rail (7) and drawer rail (6) between the drawer rail (6) and the center rail (7), and/or between the cabinet rail (8) and the center rail (7).

4. Drawer system, according to one of the claims 1 to 3, **is characterized by** the energy storage (11, 19, 31, 52, 53) that contains at least one flexible ductile spring.

5. Drawer system, according to claim 4, **is characterized by** the ductile spring of the energy storage (11, 19, 31, 52, 53) has at least one spiral spring (11, 19) and/or at least one torsion spring (31) and/or at least one helical/coil spring (52, 53).

6. Drawer system, according to claim 5 **is characterized by** the spring (11, 19, 31, 52, 53) that is made out of metal and/or plastic.

7. Drawer system, according to one of the claims 4 to 6, **is characterized by** the spring (11, 19, 31) that is fastened with one end on a shaft (24) and on its other end to the drawer (16, 30, 34), so that the shaft (24) by a pinion (21) has a toothed engagement with a toothed rack (23) of the cabinet (17), whose lengthwise axle runs parallel to the rails (6-8) and/or the opening and closing distance of the drawer (16, 30, 34, 41).

8. Drawer system, according to one of the claims 4 to 7, **is characterized by** the spring (11, 19, 31) that is fastened to the back side (3) of the drawer (16, 30, 34).

9. Drawer system, according to one of the claims 1 to 8, **is characterized by** the speed regulator (12, 20, 35 42) that works between the cabinet (17) and the drawer.

10. Drawer system, according to one of the claims 1 to 9, **is characterized by** the speed regulator (59) that works between the cabinet rail (8) and the movable rail(s) (6, 7).

11. Drawer system, according to claim 10, **is characterized by** the speed regulator (59) that is located on the center rail (7) and works between all rails (6-8)

12. Drawer system, according to one of the claims 1 to 11, **is characterized by** the speed regulator (12, 20, 35, 42, 59) that has lat least one toothed rack (15; 23; 45; 61, 62), at least one pinion (13; 21, 25, 26; 36, 37; 43; 60) and at least one damper/brake (14; 22; 38, 39; 44; 63), which connect to each other and work together.

13. Drawer system, according to one of the claims 1 to 12, **is characterized by** the drawer (1, 16, 30, 34, 41) that is held by at least one detent/holding system (10, 18, 32, 47-49) in the open position, which the user must uncouple before the drawer (1, 16, 30, 34, 41) is pulled in by the automatic self-closing mechanism.

14. Drawer system, according to claim 13, **is characterized by** the detent/holding system (10) that works between the rails (6-8).

15. Drawer system, according to claim 13, **is characterized by** the detent/holding system (10) that works with full extension drawer systems with the cabinet rails (8), center rail (7) and drawer rail (6) that work between the drawer rail (6) and center rail (7) and/or between the cabinet rail (8) and center rail (7).

16. Drawer system, according to one of the claims 13 to 15, **is characterized by** the detent/holding system (18, 32, 47-49) that works between a shaft of the energy storage and/or speed regulator and the drawer (16, 30, 34, 41).

17. Drawer system, according to claim 16, **is characterized by** the detent/holding system (18, 32, 47-49) that is attached to the rear wall of the drawer (16, 30, 34, 41).

18. Drawer system, according to one of the claims 13 to 17, **is characterized by** the detent/holding system (10) that is a releasable form-fitting catch connection.

19. Drawer system, according to one of the claims 13 to 17, **is characterized by** the detent/holding system (18, 32, 47-49) has a releasable positive form-fitting and/or frictionally engaged clamp connection with partially flexible springy ductile construction parts.

20. Drawer system, according to one of the claims 13 to 19, **is characterized by** the speed regulator (12), the energy storage (11) and the detent/holding system (10) for the extended 'pulled-out' drawer (1) are separated from each other in the drawer system.

21. Drawer system, according to one of the claims 13 to 20, **is characterized by** the speed regulator (20, 35, 42), the energy storage (19, 31) and the detent/holding system (18, 32, 47-49) for the extended 'pulled-out' drawer (16, 30, 34, 41) are located in a common area of the drawer system.

22. Drawer system, according to claim 21, **is characterized by** the common area at the back side (3) of the drawer (16, 30, 34, 41).

23. Drawer system, according to claims 21 or 22, **is characterized by** the speed regulator (20, 35, 42), the energy storage (19, 31) and the detent/holding system (18, 32, 47-49) is partly located on a common shaft (24), which by a pinion (21) is in toothed engagement with a toothed rack (23) of the cabinet (17), whose lengthwise axle runs parallel to the rails (6-8) and/or the opening-/closing path of the drawer (16, 30, 34, 41).